

Habitat Inventory for Prioritized Management: Project FY13 Update

Madison WMD

PROJECT DESCRIPTION

As part of the District's CCP, a structured decision making tool has been developed to "Prioritize" Waterfowl Production Area's (WPA) for management. Waterfowl habitat protection and restoration are the Districts primary emphases. Strategic planning enables the Service to make decisions on what habitats need protection and what landscapes have the greatest value to the health of waterfowl populations. Through HAPET's research and modeling of the Prairie Pothole Region of South Dakota, the Service can predict duck pair density. The Service bases its protection priority for wetland and grassland habitat on this modeling effort. Strategic planning increases the likelihood of making cost-effective decisions by avoiding misapplications of management treatments or investing in areas with limited potential to affect populations. This strategic planning applies not only to native prairie but to planted grasslands and wetlands as well.

The District's CCP utilizes 4 main criteria for its single model:

- Breeding Duck Pairs (HAPET Office), Grassland Easement Priority Zone (HAPET Office), Percent Grass on the Landscape (HAPET Office), and Species Composition by WPA from Belt- Transect Data (Provided by station)

The species composition (habitat) data provided by the station provides the fine scale changes to the model's output (prioritization list of WPA's). Essentially, the most recent data will produce the most accurate and refined model. The other criteria utilized by the model will only provide changes when HAPET produces updated information, which generally happens every 5-10 years.

OBJECTIVES AND ALTERNATIVES

1.) Native Prairie Prioritization Objective

Implement the standardized, science-based prioritization tool developed for the CCP so that limited funding and management resources are objectively allocated to native prairie tracts according to the potential for that tract to benefit waterfowl and grassland birds.

2.) Planted Grasslands Prioritization Objective

Implement the standardized, science-based prioritization decision tree developed for the CCP so that limited funding and management resources are objectively allocated to planted grasslands according to the potential for that tract to benefit waterfowl and grassland birds.

METHODS AND PROTOCOLS

We are using a variation of the "Belt Transect Method" (Grant et al. 2004a) vegetation data collection method referred to as the "Modified G Transect". Essentially, the Grant et al. "Belt Transect Method" has been altered to collect structure data as well as vegetation composition in a spatial context. The transect route is in the shape of a "G" within the fixed radius of the point count:

Each transect consists of 20 points, one point every 15 meters. At each point the vegetation community is classified according to the South Dakota Upland Plant Associations (Belt Transect Categories) described in Grant et al. 2004a. Vegetation structure data consist of a Robel measurement (dm), the effective leaf height (cm), and the litter depth (cm); this is done at every other point.

- Robel readings estimate the visual obstruction at a height of 1 m and a distance of 4 m. VOR's are recorded to the nearest 0.25 dm.

- Effective leaf height is an estimation of the height of the leaves of the plant. We will estimate to the nearest centimeter.

- Litter depth is the height of dead vegetation from previous years that is standing, but no longer vertical. It is considered litter when it forms a mat-like layer, roughly continuous or parallel to the ground. Litter depth is measured are to the nearest millimeter.

DATA ANALYSIS / MODELS

The data collected will be utilized by the station to populate the "Prioritization Tool" described in the CCP to classify WPA's into various categories of Management concern. Currently the HAPET office is working to automate the model, until then the HAPET office generate the output for the Station.

DATA MANAGEMENT

Data will be stored at the Madison WMD in electronic and paper form. The data is currently being stored in a flat file format (Excel), with plans to develop an Access database. The Data is also being shared and stored with the HAPET office in Bismarck, ND.

PARTNERS

Over 10 people have been involved in the project, representing 4 agencies/organizations and prairie pothole Landscape Conservation Cooperatives.

SOURCES OF SUPPORT

R6 I&M Program, Madison WMD, R6 HAPET Office

CURRENT STATUS

This was a two-year project to collect sufficient habitat inventory data in the Madison WMD to provide functionality to the "Prioritization Tool". The goal of the first year was to collect upland habitat data in the district to complement existing data.

In 2013, we focused our efforts on collecting missing data, organizing existing data and developing outputs desired from the data base. We are also currently working to refine our sampling design to more effectively and efficiently meet our objectives.

HAPET continues to work on refining the geospatial structured decision making tool (Model Builder format). Data gaps were identified and various inputs were discussed. The data we have collected will be used to verify the model outputs accuracy as compared to CCP outputs.

In 2013, significant progress was made on the development of an Access data base to house and assist in analysis of the habitat data. Thanks to Jen Zorn, the data base is a reality and functioning on the basic level. Data query's and summaries are now feasible.

LITERATURE CITATION

Grant, T.A.; Madden, E.M.; Murphy, R.K.; Nenneman, M.P.; Smith, K.A. 2004a. Monitoring native prairie vegetation: the belt transect method. Ecological Restoration 22:106–111.

Reynolds, R.E.; Shaffer, T.L.; Renner, R.W.; Newton, W.E.; Batt, B.D.J. 2001. Impact of the conservation reserve program on duck recruitment in the U.S. Prairie Pothole Region. Journal of Wildlife Management

